

In the Claims:

Sub
D1 > 1. (Currently Amended) A satellite constellation comprising:
a plurality of satellites, each of said satellites having an RF ground
link for communicating with a ground station and an optical link for
communication with at least one of the plurality of satellites;

each of said satellites having a reconfigurable optical transmitter
and a reconfigurable optical receiver for sending and receiving data streams,
each reconfigurable optical transmitter having an optical carrier associated
therewith and a reconfigurable optical receiver;

CC said plurality of satellites arranged to have a first subset of
satellites, said first subset of satellites are configured to communicate
therebetween;

said plurality of satellites arranged to have a second subset of
satellites having at least one different satellite different than that of said first
subset and at least one second satellite the same as the first subset, said second
subset of satellites are configured to communicate therebetween.

2. (Original) A satellite constellation as recited in claim 1
wherein each of said plurality of satellites comprises a communications table.

CC 3. (Currently Amended) A satellite constellation as
recited in claim 2 wherein said communications table has a plurality of routes for
communicating between satellites in said first subset.

4. (Previously Amended) A satellite constellation as recited in
claim 1 wherein said reconfigurable optical transmitter comprises an array of
laser diodes.

5. (Original) A satellite constellation as recited in claim 1
wherein said optical transmitter is tunable to generate a plurality of wavelengths.

6. (Previously Amended) A satellite constellation as recited in claim 1 wherein said reconfigurable optical receiver is one from the group consisting of a Fabry-Perot filter, a wavelength division multiplexer, and a fiber grating-based optical switch.

7. (Original) A satellite constellation as recited in claim 1 wherein said satellites are in low earth orbit.

8. (Original) A satellite constellation as recited in claim 1 wherein said satellites are in medium earth orbit.

9. (Original) A satellite constellation as recited in claim 1 wherein said first and second subsets are aligned with a landmass.

10. (Original) A satellite constellation as recited in claim 1 wherein said subset comprises seven satellites using three optical carriers.

11. (Previously Amended) A global communications system comprising:

a plurality of satellites spaced about the earth;

a first subset of said plurality of satellites forming a local area network over a landmass, said first subset having a first plurality of optical carriers assigned thereto for intercommunication;

said first subset having a second plurality of optical carriers assigned thereto for communicating with other satellites outside of said first subset.

12. (Original) A global communications system as recited in claim 11 wherein each of said plurality of satellites comprises a communications table.

13. (Previously Amended) A global communications system as recited in claim 12 wherein said communications table has a plurality of paths for communication between said satellites of said first subset.

Sub 1
14. (Currently Amended) A global communications system as recited in claim 11 wherein each of said satellites comprises a reconfigurable optical transmitter and a reconfigurable optical receiver.

Q3
15. (Currently Amended) A global communications system as recited in claim 11 wherein said reconfigurable optical transmitter comprises an array of laser diodes.

16. (Currently Amended) A global communications system as recited in claim 11 wherein said reconfigurable optical transmitter is tunable to generate a plurality of wavelengths.

17. (Previously Amended) A method of communicating within a satellite communications system comprising the steps of:

deploying a plurality of satellites;
grouping a first subset of the plurality of satellites into a first local area network, said first subset having fewer than the plurality of satellites;
forming a plurality of routes between the satellites in the first local area network; and
assigning an optical carrier for each route.

18. (Original) A method as recited in claim 17 further comprising the steps of forming a second local area network by grouping a second subset of the plurality of satellites and interconnecting the first local area network and the second local area network to form a wide area network.

19. (Original) A method as recited in claim 17 wherein the step of assigning an optical carrier comprises the step of obtaining the optical carrier and route from a respective optical wavelength selector and connection table.

20. (Original) A method as recited in claim 17 wherein the step of assigning comprises the step of reusing the optical carriers.

21. (Previously Added) A method as recited in claim 17 wherein assigning an optical carrier for each route comprises assigning a first set of optical carriers for communication within the first local area network and a second set of optical carriers for communication with other satellites outside of said first local area network.

Sub D1 C
22. (Currently Amended) A satellite constellation comprising:
a plurality of satellites, each of said satellites having an RF ground link for communicating with a ground station and an optical link for communication with at least one of the plurality of satellites;

each of said satellites having a reconfigurable optical transmitter and a reconfigurable optical receiver for sending and receiving data streams, each reconfigurable optical transmitter having an optical carrier associated therewith and a reconfigurable optical receiver;

RA
said plurality of satellites arranged to have a first subset of satellites, said first subset of satellites are configured to communicate therebetween;

said plurality of satellites arranged to have a second subset of satellites that supercede the first set of satellites, said second subset of satellites having at least one different satellite different than that of said first subset, said second subset of satellites are configured to communicate therebetween.

23. (Currently Amended) A satellite constellation as recited in claim 22 wherein each of said plurality of ~~satelites~~ satellites comprises a communications table.

24. (Currently Amended) A satellite constellation as recited in claim 23 wherein said communications table has a plurality of routes for communicating between satellites in said first subset.

25. (Previously Added) A satellite constellation as recited in claim 22 wherein said reconfigurable optical transmitter comprises an array of laser diodes.

26. (Previously Added) A satellite constellation as recited in claim 22 wherein said optical transmitter is tunable to generate a plurality of wavelengths.

27. (Previously Added) A satellite constellation as recited in claim 22 wherein said reconfigurable optical receiver is one from the group consisting of a Fabry-Perot filter, a wavelength division multiplexer, and a fiber grating-based optical switch.

28. (Previously Added) A global communications system comprising:

a plurality of satellites spaced about the earth;

a first subset of said plurality of satellites forming a first local area network over a landmass, said first subset having a first plurality of optical carriers assigned thereto for intercommunication;

a second subset of said plurality of satellites forming a second local area network over a landmass, said second subset having a second plurality of optical carriers assigned thereto for intercommunication;

said first subset having a third plurality of optical carriers assigned thereto for communicating with said second subset.

29. (Previously Added) A global communications system as recited in claim 28 wherein said second subset has a fourth plurality of optical carriers assigned thereto for communicating with said first subset.

Sub 31 } 30. (Currently Amended) A method of communicating within a satellite communications system comprising the steps of:

deploying a plurality of satellites;

AS grouping a first subset of the plurality of satellites into a first local area network;

superceding said first subset by grouping a second subset of the plurality of satellites into a second local area network so that at least one satellite of said ~~first~~ second subset of the plurality of satellites is different than that of said second first subset of the plurality of satellites.

31. (Previously Added) A method as recited in claim 30 wherein superceding said first subset comprises reconfiguring a reconfigurable optical transmitter for each of the satellites in the second subset.

32. (Previously Added) A method as recited in claim 31 wherein reconfiguring a reconfigurable optical transmitter comprises changing a plurality of routes between the satellites in the second local area network relative to the first local area network.